GE Electronic TUBES

6DN7

DISSIMILAR DOUBLE TRIODE

FOR TV VERTICAL-DEFLECTION OSCILLATOR AND AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6DN7 is a dissimilar double-triode designed for use as a combined vertical-deflection oscillator and amplifier in television receivers. Section 1 is intended for service as an oscillator and Section 2 as an amplifier.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential

Heater Voltage, AC or DC .... 6.3 ± 10% Volts

Heater Current .... 0.9 Amperes

Direct Interelectrode Capacitances, approximate*

	Section 1	Section 2	
Grid to Plate	4.0	5.5	μμf
Input	2.2	4.6	μμf
Output	0.7	1.0	μμf

MECHANICAL

Mounting Position—Any

Envelope—T-9, Glass

Base—B8-142, Intermediate-Shell Octal 8-Pin

MAXIMUM RATINGS

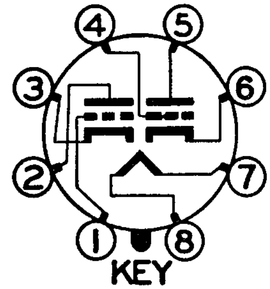
DESIGN-MAXIMUM VALUES	Vertical-Oscillator Service (Section 1)†	Vertical-Deflection Amplifier (Section 2)†	
DC Plate Voltage	350	550	Volts
Peak Positive Pulse Plate Voltage		2500	Volts
Peak Negative Grid Voltage	400	250	Volts
Plate Dissipation	1.0	10‡	Watts
DC Cathode Current		50	Milliamperes
Peak Cathode Current		150	Milliamperes
Heater Caihode Voltage			
Heater Positive with Respect to Cathode			
DC Component	100	100	Volts
Total DC and Peak	200	200	Volts
Heater Negative with Respect to Cathode			
Total DC and Peak	200	200	Volts
Grid-Circuit Resistance			
With Fixed Bias	2.2	2.2	Megohms
With Cathode Bias	2.2	...	Megohms

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, taking responsibility for the effects of changes in operating conditions due to variations in tube characteristics.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.

BASING DIAGRAM

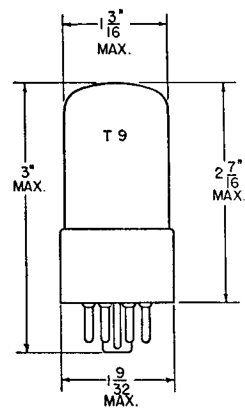


EIA 8BD

TERMINAL CONNECTIONS

Pin 1—Grid (Section 2)
Pin 2—Plate (Section 2)
Pin 3—Cathode (Section 2)
Pin 4—Grid (Section 1)
Pin 5—Plate (Section 1)
Pin 6—Cathode (Section 1)
Pin 7—Heater
Pin 8—Heater

PHYSICAL DIMENSIONS



EIA 9-5

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS	Section 1 (Oscillator)	Section 2 (Amplifier)		
Plate Voltage	250	150	250	Volts
Grid Voltage	−8.0	0§	−9.5	Volts
Amplification Factor	22.5	...	15.4	
Plate Resistance, approximate	9000	...	2000	Ohms
Transconductance	2500	...	7700	Micromhos
Plate Current	8.0	68	41	Milliamperes
Grid Voltage, approximate Ib = 10 Microamperes	−18	...	...	Volts
Grid Voltage, approximate Ib = 50 Microamperes	...	...	−23	Volts

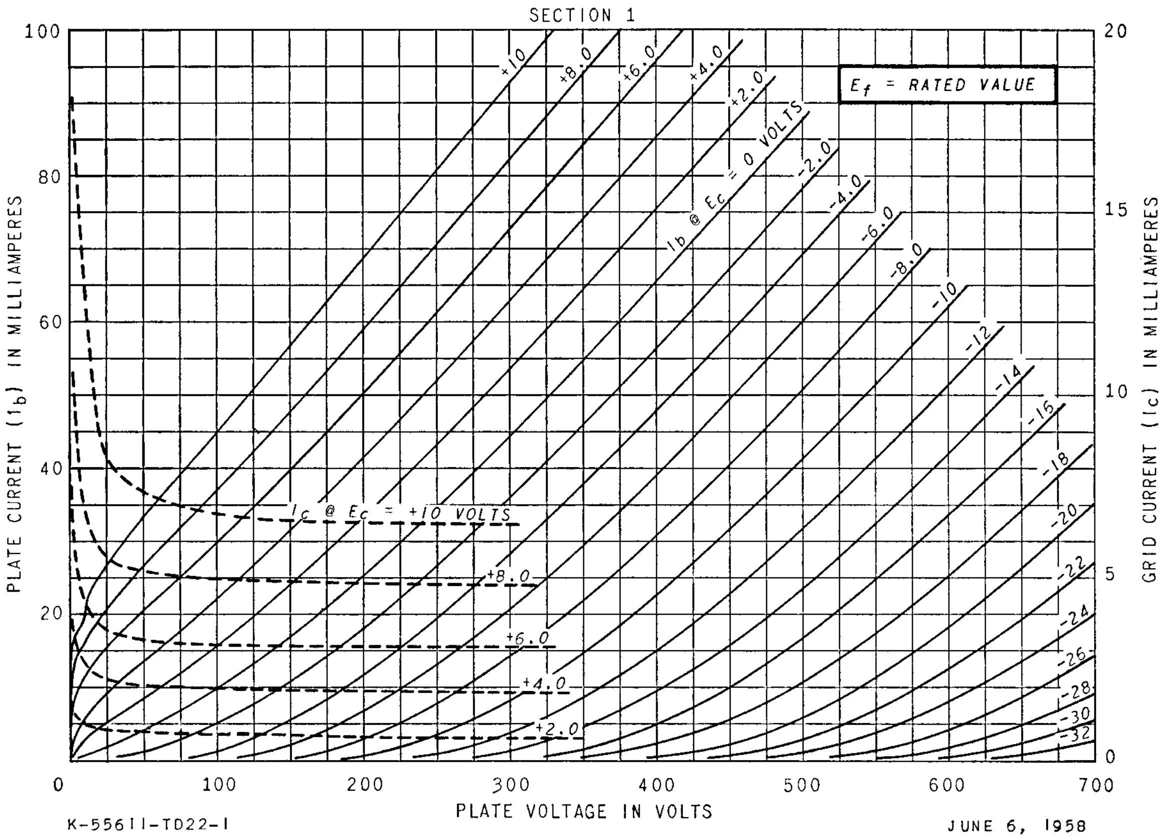
* Without external shield.

† For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communication Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.

‡ In stages operating with grid-leak bias, an adequate cathode-bias resistor or other suitable means is required to protect the tube in the absence of excitation.

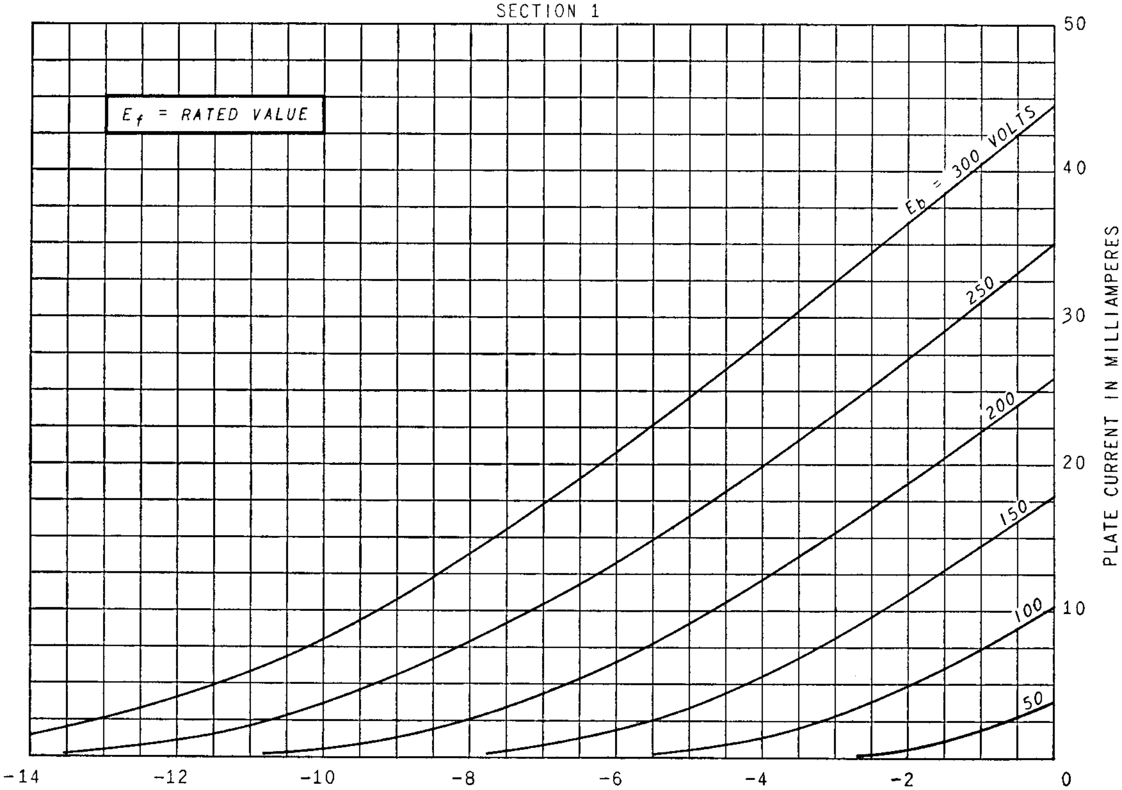
§ Applied for short interval (two seconds maximum) so as not to damage tube.

AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS

SECTION 1

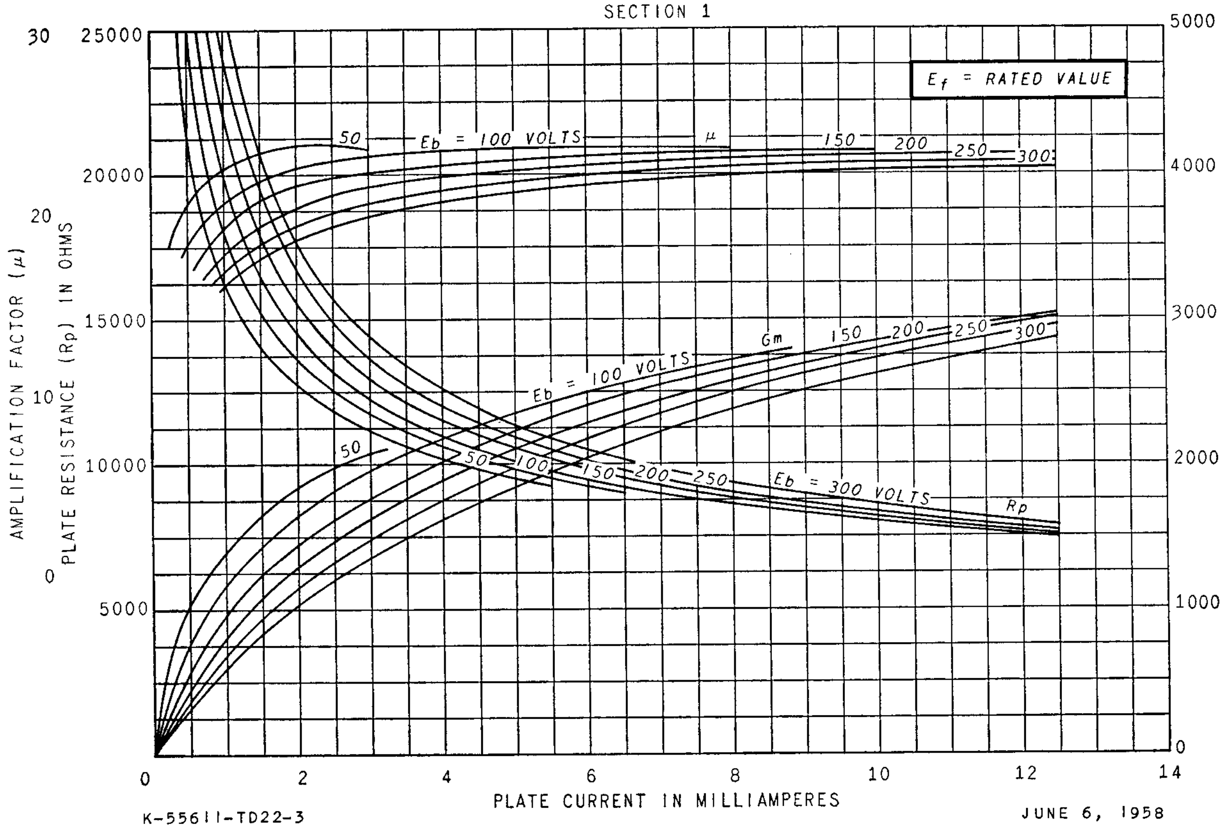


K-55611-TD22-2

JUNE 6, 1958

AVERAGE CHARACTERISTICS

SECTION 1

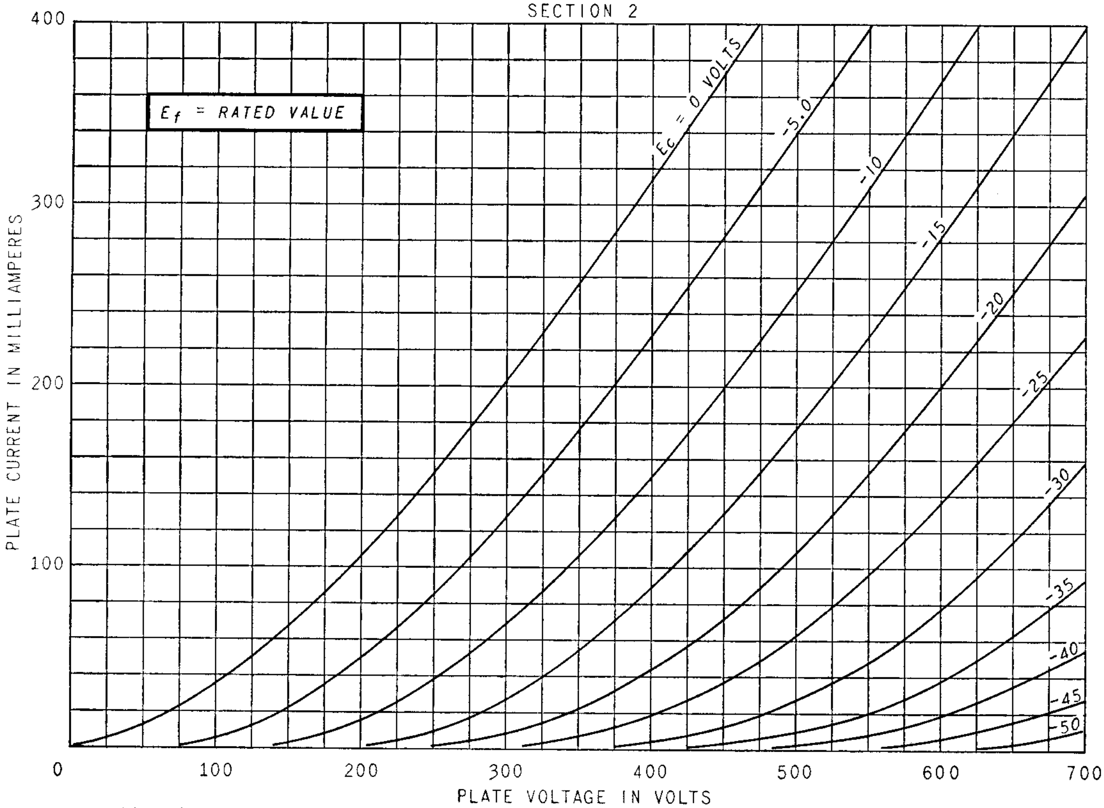


K-55611-TD22-3

JUNE 6, 1958

AVERAGE PLATE CHARACTERISTICS

SECTION 2

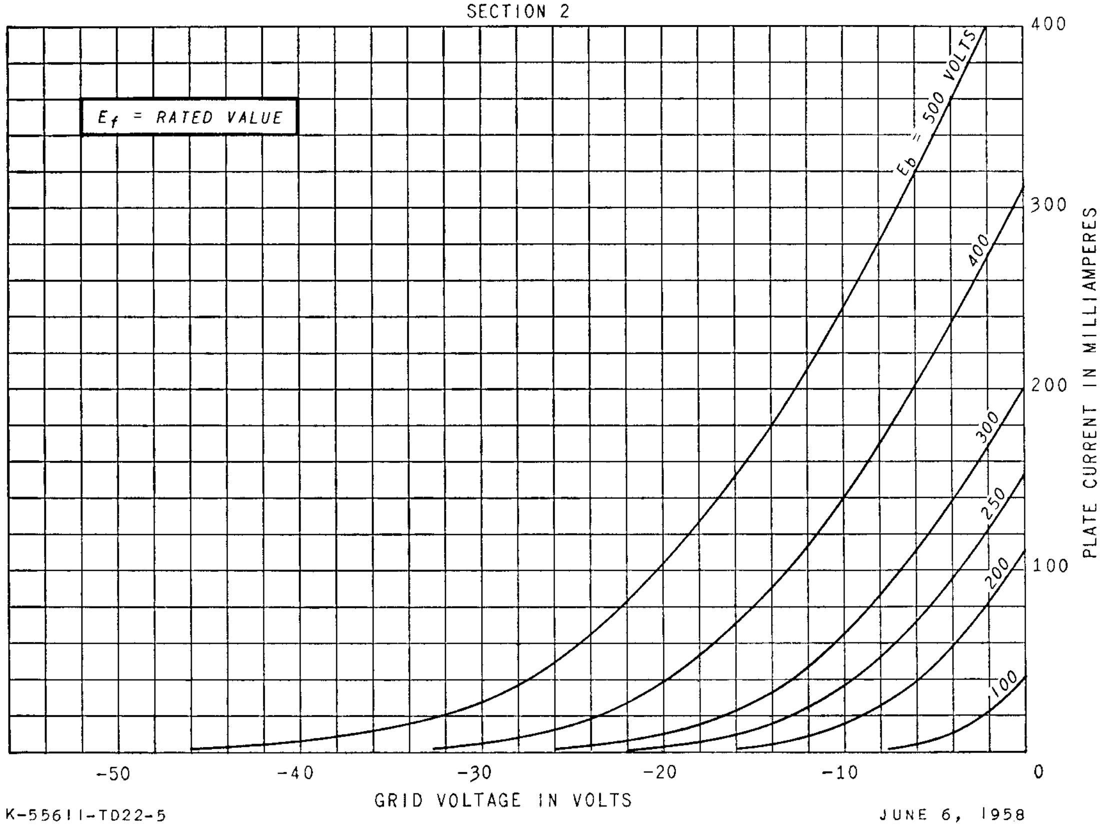


K-55611-TD22-4

JUNE 6, 1958

AVERAGE TRANSFER CHARACTERISTICS

SECTION 2



K-55611-TD22-5

JUNE 6, 1958

AVERAGE CHARACTERISTICS

